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Performance Appraisals as Heuristic Judgments under Uncertainty

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INTRODUCTION

JDM and the Performance Appraisal Process

Performance appraisals (PAs) are nearly universal in modern organizations and influence important decisions concerning compensation, promotion, termination and others. Typically, performance is appraised via subjective evaluations by supervisors, peers, or self in the form of performance ratings (Landy & Farr, 1980). We believe that this process can be fruitfully viewed from a judgment and decision making (JDM) perspective. This perspective highlights that raters need to search, integrate, and evaluate information to make judgments and decisions about employees' performance. A major concern for researchers and practitioners alike has been that performance ratings and actual performance are not perfectly correlated, suggesting that raters are less than perfect in their appraisals. Why this is so can easily be understood from a JDM perspective. This body of research suggests that performance appraisals are judgments made under uncertainty using heuristic processes rather than purely "cold," analytical, perfectly rational cognition.

Historically, judgment and decision research had a strong influence on PA research through the famous "heuristics and biases" program and related work in social psychology on biases in social judgment (Kahneman, Slovic, & Tversky, 1982; Nisbett & Ross, 1980). This has led to many contributions such as work on halo bias or leniency bias (for an excellent review of this work, see Landy & Farr, 1980). Over time, interest waned

and other research questions became more central to performance appraisal research, partly inspired by the more social and motivational framework proposed in Murphy and Cleveland (1995). The waning interest was also justified by a narrow view on the part of PA researchers as well as many behavioral decision researchers of JDM as essentially the study of biases. However, we believe that now is a good time to reinvigorate JDM research on PA from a broader perspective of heuristic processing that goes beyond biases by including affect, attention, cognition, and contextual factors.

The purpose of this chapter is to present some JDM research and ideas relevant to PA in a selective rather than comprehensive manner focusing on areas we believe are promising for future research. We discuss these under the sections on perception and cognition, emotions, and context and environment. Our overarching framework is of PA as a heuristic process under uncertainty and in the next section we discuss this framework in more detail.

Performance Appraisal as a Heuristic Process under Uncertainty

Arguably, few concepts have had a stronger impact on the study of judgment and decision making than Herbert Simon's *bounded rationality*. The essence of bounded rationality is captured concisely by Simon's "scissors" metaphor: "Human rational behavior is shaped by a scissors whose two blades are the structure of task environments and the computational capabilities of the actor" (1990, p. 7). It is out of the necessity to cope with these two constraints that our mind has adopted various heuristics to solve most problems (e.g., Gigerenzer, 2008; Newell & Simon, 1972; Tversky & Kahneman, 1974). On one side, heuristic processing is faster and requires fewer attentional, cognitive, and computational capabilities than optimization algorithms. Due to its "shortcut" nature, such processing can lead to systematic deviations from normative standards, resulting in the so-called "biases." This aspect of bounded rationality has been studied extensively in JDM under the heuristics and biases paradigm (Gilovich, Griffin, & Kahneman, 2002).

On the other side, task environments may differ in many aspects, such as their levels of uncertainty and complexity and how information and goals are structured. These differences call for a repertoire of heuristics that can be selected flexibly for tasks with distinct features (e.g., Gigerenzer & Selten, 2002). Although this aspect of bounded rationality has received less attention, the study of it is essential to understand the nature and effects of heuristic processing and we shall return to it later.

From our perspective, PA is fundamentally similar to other JDM tasks: Based on some relevant information of the ratee, the rater needs to either derive a judgment on a criterion variable that can take multiple values (e.g., selecting one response option on a performance rating scale) or make a decision, that is, a choice among two or more options that has concrete consequences (e.g., promoting an employee or not). This task can be complicated due to its uncertain nature. Specifically, facing a myriad of information, raters may not know which pieces are relevant to the appraisal criterion and which are not (see, for example, our discussion on the dilution effects in performance judgment). Even if raters were able to focus on information that is useful, it is often not clear how important each piece of information is relative to others, and how one should utilize such information to come up with a sound judgment or decision.

These difficulties stem in part from an uncertain environment, in which cues (e.g., employee behaviors) are only probabilistically related to the criterion (e.g., performance; Brehmer & Joyce, 1988), and in part from raters who are usually limited in their skill and knowledge concerning the rating task. Various heuristics that direct raters' attention to some but not all information in the environment and utilize information with some simple but effective methods (e.g., Gigerenzer, Todd, & the ABC Research Group, 1999; Luan, Schooler, & Gigerenzer, 2011) are common tools employed by decision makers in dealing with uncertainties such as those encountered in the PA process.

In summary, PA can be viewed as a heuristic process under uncertainty. While raters typically use heuristic processing, they may not be aware of some of the limitations of such heuristics and the impossibility to always make accurate performance judgments given the uncertainty involved in this task. The next section describes some important work within a "traditional" heuristics frame that focuses on perception and cognition.

PERCEPTION AND COGNITION IN THE PERFORMANCE APPRAISAL PROCESS

Framing Effects on Performance Judgments

It has long been recognized that how a decision is framed can have a huge influence on which option is chosen. Even two logically equivalent statements (e.g., 80 percent fat-free vs. 20 percent fat) may lead to different

decisions because of the difference in framing. An important finding in JDM has been the difference between gain and loss framing. According to prospect theory (Kahneman & Tversky, 1979), options are evaluated relative to the decision maker's reference point such that values above the reference point are perceived as gains whereas values below are perceived as losses. Generally, losses are weighed more heavily and are perceived relatively more unfavorably than gains are, a phenomenon called "loss aversion." Further, as objective gains or losses increase, the increase in subjective value (i.e., perceived gain or loss) decreases (i.e., S-shape function of the subjective value function).

Applying this idea to performance evaluations, Wong and Kwong (2005) investigated whether employee evaluations are influenced by the framing of the performance information. Using a scenario-based study, results indicated that the same objective performance information was evaluated more favorably when it was framed positively (e.g., presence rate of 97 percent) than when it was framed negatively (e.g., absence rate of 3 percent). Results further indicated that the performance differences between two individuals were perceived to be larger when the performance information was expressed with smaller compared to larger numbers, consistent with the S-shape function of the subjective value function. Similarly, Levin (1987) observed that basketball players' performances were evaluated more favorably when participants were presented with the percentage of shots made compared to participants who were presented with percentage of shots missed.

Future research on framing effects and performance evaluations could examine the boundary conditions of such effects. For example, some research suggests that framing effects are weakened for individuals who have strongly held beliefs or high personal involvement with respect to the evaluated attribute (Levin, Schneider, & Gaeth, 1998). Similarly, research indicates that framing effects may not be observed if one has to justify the decision to others (Miller & Fagley, 1991) or has a close relationship with the person that the decision will affect (Wang & Johnston, 1995). In applied settings where a manager may have high personal involvement in appraisals, may have to justify appraisal ratings to employees, and may have a close relationship with the employee, framing effects might be greatly reduced or eliminated.

Decoy Effects in Performance Judgments

A famous effect that is similar to framing effects is the decoy effect. Consider a choice between two non-dominated options (i.e., each option is better

on at least one attribute). Huber, Payne, and Puto (1982) found that introducing a third, "decoy" option that is dominated by only one of the original options significantly increases the frequency with which the dominating option is chosen. This effect violates the normative principle of regularity. For example, let us say a supervisor evaluates the performance of three subordinates. Subordinate A produces high quantity and medium quality work. Subordinate B produces medium quantity and high quality work. Subordinate C (the decoy) produces high quantity and low quality work. Subordinate C is "asymmetrically dominated" by Subordinate A, which should increase the latter's evaluation relative to a situation in which only A and B are compared (e.g., Highhouse, 1996). If Subordinate C (the decoy) produced low quantity and high quality products, Subordinate C would now be asymmetrically dominated by Subordinate B, and B's performance evaluation would improve.

Numerous explanations have been offered to explain the decoy effect. For example, Wedell and Pettibone (1996) note that the presence of a decoy may influence the relative weighting of attributes or the subjective value attributed to an attribute, or may add value to an alternative choice. Other research has focused on moderating variables. For example, Slaughter, Bagger, and Li (2006) found that the effect is stronger under pressure to justify the decision to others (accountability). Connolly, Reb, and Kausel (2010), in contrast, found that a focus on self-justification (through increased regret salience) reduces the effect, apparently making decision makers rely less on the shallow justification provided by the irrelevant decoy option. Future research could examine whether and under which conditions decoy options influence performance ratings as well as decisions on whom to promote or to whom to give the largest raise.

Dilution Effects in Performance Judgments

Like decoy effects, dilution effects occur because additional information is presented to the decision maker, which in this case leads to less extreme judgments (Nisbett, Zukier, & Lemley, 1981). More specifically, dilution effects occur when purely non-diagnostic information tempers, or dilutes, the effect of diagnostic information when making judgments. For example, a supervisor might evaluate a service employee receiving high customer satisfaction ratings much more positively than an employee receiving poor customer ratings. However, when the supervisor is provided with other, non-diagnostic information (such as the type of car the employees drives), the dilution effect suggests that the difference between

the two performance ratings is reduced as the supervisor's judgments become less extreme.

Tetlock and Boettger (1989) found that the dilution effect is exacerbated when people are held accountable for their judgments. This is interesting given that one might expect accountability to lead to less biased decisions (but consistent with the amplifying effect of accountability on the decoy effect discussed above) (for an excellent review of the accountability effect, see Lerner & Tetlock, 1999). Apparently, when accountability is high *and* non-diagnostic information is presented, people focus more heavily on the irrelevant information and try to make sense of it leading to diluted (regressive) judgments (Tetlock & Boettger, 1989). There is some evidence that this may, in part, be due to conversational norms. People naturally try to ascribe relevance to information that is presented during conversation and thus may be likely to construe non-diagnostic information as diagnostic (Grice, 1975). When participants were told that conversational norms were going to be broken during the study, the effect disappeared with the accountable subjects, though the effect persisted with the unaccountable subjects (Tetlock, Lerner, & Boettger, 1996). This indicates that both the conversational norm and judgmental bias explanations work to cause dilution in judgment.

Dilution effects are important to study in the PA setting because the rater often has a lot of non-diagnostic information concerning employees' personal life, hobbies, interests, and background. Arguably, most of that information will not be relevant when a manager needs to make judgments about job performance. According to the dilution effect, that irrelevant information would actually dilute the influence of diagnostic information, such as performance-relevant behaviors. As a result, strong performers are rated less positively and weak performers less negatively. This could also have implications when the assessor has more non-diagnostic information about some employees than others. In this case employees performing at the same level may receive different evaluations due to the differential influence of irrelevant information. More research is needed to understand the mechanisms by which this phenomenon occurs in a PA context as well as determine the utility of debiasing techniques.

Anchoring Effects in Performance Judgments

In the anchoring and adjustment heuristic, a final judgment is the result of an initial anchor from which the judgment is adjusted (Kahneman et al., 1982). Although the judgment and decision-making literature typically

focuses on information that is clearly irrelevant, the PA literature typically has focused on how potentially relevant information influences evaluations (Thorsteinson et al., 2008). For example, this literature has investigated how information about an employee's previous performance, self-ratings or peer ratings, and other employees' performance levels influences evaluations of that employee's current performance (e.g., Foti & Hauenstein, 1993; Klimoski & Inks, 1990; Smither, Reilly, & Buda, 1988). More recently, consistent with the majority of research on anchoring effects, researchers have examined how clearly irrelevant information may influence performance ratings. For example, athletes with higher numbers printed on their jerseys were evaluated to be more likely to perform better in a future game than were athletes with lower numbers on their jerseys (Critcher & Gilovich, 2008).

In the most comprehensive study to date on irrelevant anchors' effects on performance evaluations, Thorsteinson et al. (2008) had participants view an example of a performance rating form that indicated either the highest or lowest possible rating. Results indicated that the low anchor decreased ratings and the high anchor increased ratings compared to a control group that did not receive any anchoring information. In a follow-up, participants viewed anchors that were more (sample evaluation of an employee) or less (sample evaluation of a product) applicable to the participants' task of evaluating an employee. Results revealed a main effect for anchoring such that high anchors produced higher ratings than the ratings of a control group that did not receive any anchoring information, whereas the low anchors did not differ from the control ratings. Whether or not the anchor was relevant (i.e., product or performance anchor) did not influence ratings. To assess the generalizability of their findings to a field context, they asked students to evaluate their class professor late in the semester for research purposes. Using high or low anchors on a sample performance rating form, results indicated that the high anchor produced higher ratings but that the low anchor did not affect ratings when compared to a control group.

Anchoring effects frequently occur even when the anchor is completely irrelevant, so extreme that it is implausible, or presented subliminally (Mussweiler & Englich, 2005). For example, Tversky and Kahneman (1974) generated an anchor by spinning a wheel of numbers and observed that the number that the wheel stopped on (i.e., the anchor) affected subsequent decisions in the direction of the anchor (i.e., either a high or low number). Interestingly, anchoring effects occur for domain experts and novices alike, regardless of whether or not the individual could recall the anchor value

(Critcher & Gilovich, 2008), despite warnings about the biasing effects of anchors (Tversky & Kahneman, 1974), and even when participants are offered incentives to provide accurate judgments (Kahneman et al., 1982). Further, research suggests that two anchors with the same semantics but different absolute values (e.g., 7300 m versus 7.3 km) produce different effects such that anchors with larger absolute values produced larger effects (Wong & Kwong, 2000).

According to the Selective Accessibility (SA) model of anchoring, anchors are believed to influence judgments because the anchor increases the accessibility of anchor-consistent knowledge about the object (Mussweiler & Strack, 2001). According to the SA model, for example, when a supervisor is exposed to an anchor and is then asked to evaluate an employee, the supervisor assesses whether the employee is equal to the anchor value. When making this comparison, the supervisor will access anchor-consistent knowledge from one's memory and rely on this information when evaluating the employee thereby producing an assimilation effect. It is worth noting that, although the performance appraisal literature discusses contrast, primacy, or recency effects, anchoring effects differ because they may result from completely irrelevant information and do not require a comparison to another ratee.

Evaluation of Dynamic Performance

Employee performance is dynamic and changes over time (Hofmann, Jacobs, & Gerras, 1992). Changes in employee performance occur for a variety of reasons and may be temporary or relatively permanent. For example, temporary performance changes may result from fluctuations in one's daily affective state, whereas relatively permanent changes may occur as a result of employees learning or developing skills that are required for effective performance. Considering both short-term and long-term changes in performance, employee performance profiles may differ on at least three primary characteristics: (a) performance mean, (b) performance variation, and (c) performance trend (i.e., the trajectory of performance such as an improving, deteriorating, or flat trend). When faced with the task of providing an overall performance rating for an appraisal period, raters must somehow integrate these dynamic features of performance into one summary evaluation.

Reb and Cropanzano (2007) argued that, in a heuristic process, raters draw on salient Gestalt characteristics of a dynamic performance profile to arrive at their summary performance ratings. In a laboratory experiment

using hypothetical dynamic performance profiles, they manipulated performance mean, trend, and variability (within-subjects) as well as display format, that is, whether performance information was displayed in tables or as graphs (between-subjects). In addition to an effect of performance mean (i.e., higher ratings for higher mean performance), and consistent with predictions, results showed an effect for performance trend such that performance ratings were most favorable for an improving trend, followed by a flat trend, followed by a deteriorating trend (see also DeNisi & Stevens, 1981). Interestingly, they also found that display format moderated results consistent with the idea that ratings are influenced by salient Gestalt characteristics: performance trend had a stronger effect when performance information was displayed as a graph and the trend information was most salient; performance mean had a stronger effect when information was given in a table and average performance was more salient. (Similarly, Lee & Dalal (2011) found a stronger effect of negative performance extremities in the more salient graphic display condition.) The effect of trend on evaluations of performance has been established in both student and manager samples and in western (U.S.) and eastern (Singapore) samples (Reb & Cropanzano, 2007; Reb & Greguras, 2010).

Future research could examine moderating conditions for this effect. For example, Reb and Greguras (2010) found that the trend effect was stronger when performance ratings were made for developmental purposes as compared to administrative purposes and the reverse was true for the effect of performance mean. They argued that this makes sense given that trend is more relevant for developmental purposes. Future research should also move beyond laboratory scenario studies and examine the influence of performance dynamics on actual performance ratings over real time. A first step in this direction was taken by Barnes, Reb and Ang (2010), who showed that performance trend predicts compensation decision in NBA basketball players over and above performance mean.

Decision Makers' Hubris

As the above examples of cognitive heuristics and biases show, raters do not perfectly assess ratee performance. Indeed, it is typically impossible for the rater to know *for sure* how well an employee performed. Given the difficulty of the task as well as the limitations to human judgment (i.e., bounded rationality), this imperfection is not surprising. What is surprising is decision makers' hubris. Despite the inherent difficulty of making accurate judgments under uncertainty, people have been shown to exhibit

a remarkable (over)confidence in their judgment (see Dunning, this volume, for a more comprehensive review).

A number of factors seem to be contributing to lacking appreciation of making judgments under uncertainty and the resulting decision-making hubris: judgmental miscalibration, or an inability to accurately estimate the precision of one's judgment (Alpert & Raiffa, 1982; Griffin & Brenner, 2004); a tendency to seek confirmatory evidence that supports one's hypotheses and to discount or filter out evidence that contradicts one's hypotheses (confirmation bias; Koriat, Lichtenstein, & Fischhoff, 1980); and decision makers' tendency to believe that they are capable (better-than-average effect; Taylor & Brown, 1988) and in control (illusion of control; Langer, 1975) and that the world is more certain than it actually is (illusion of certainty; Fischhoff, Slovic, & Lichtenstein, 1977). Such illusions can also lead to an inflated view of one's own judgment ability and can reduce raters' reliance on decision aids, which have been shown to allow for more accurate assessments than one's own intuition or holistic judgment (Highhouse, 2008; Sieck & Arkes, 2005).

A few remedies have been suggested to reduce decision makers' overconfidence: providing detailed calibration feedback and asking subjects to reflect on and process that feedback (Sieck & Arkes, 2005), making people aware of the pervasiveness of overconfidence (McGraw, Mellers, & Ritov, 2004), and asking participants to specifically generate reasons that support the alternative hypothesis (Hoch, 1985). However, there is some evidence that the latter tactic could actually entrench the participants' confidence if few alternative views are accessed (due to the availability heuristic; Fox, 2006). Research should examine in more detail how raters can avoid hubris and become more aware of the limitation of their performance ratings.

EMOTIONS IN THE PERFORMANCE APPRAISAL PROCESS

Analytical vs. Emotional Decision Making

Research on the role of emotion in judgment and decision-making processes is a relatively recent contribution to the literature. Historically, decision making was seen as a purely cognitive, analytical endeavor and JDM research focused on discovering and explaining cognitive heuristics and biases (Kahneman et al., 1982). Current theory and empirical work

has shifted to include emotion as part of decision processes and outcomes. This shift seems particularly relevant for the PA context as evaluating performance is an inherently affective-laden process. For example, supervisors may experience emotions such as anxiety, regret, or guilt as part of the PA process, whereas employees may similarly experience emotions such as worry, anger, and frustration.

The role of emotions in the decision-making process is compellingly illustrated in the work of neurologist Antonio Damasio and colleagues. Damasio studied patients who had damaged the part of the brain that is responsible for the experience of emotions. Even though all other brain regions were intact and the people were otherwise fully functioning, they were unable to make intelligent decisions that served their own interests (Damasio, Tranel, & Damasio, 1990). Thus, while the decision-making process may appear to be fully cognitive in nature, it appears that emotions are crucial in moving us toward the best option or judgment.

Damasio (1994) argues that over time we learn to associate certain stimuli with affective states, called somatic markers. Sometimes, cognitively weighing the pros and cons of the individual attributes of stimuli becomes computationally cumbersome (e.g., when an assessor is too busy to process and evaluate an observed behavior of a subordinate). In this case, he/she may quickly call up a particular somatic marker from previous experience that will evoke a positive or negative emotion (e.g., frustration), which will then guide behavior (e.g., make a negative evaluation of that employee) and ease the cognitive load. This pool of somatic markers used to shortcut more algorithmic information processing is called the *affect heuristic* (Slovic et al., 2002).

A complementary account of affective processes in cognitive reasoning distinguishes System 1 from System 2 processing (Kahneman, 2003; Stanovich & West, 2000). The former is characterized by fast, heuristic-based, emotional processing and is generally social and personal in nature. The latter is characterized by slower, controlled, analytic processing and is less social and less contextualized. Because System 2 processing is much more effortful, people typically rely on System 1 processing despite its potentially biased processing. Thus, judgments and decisions tend to be the result of System 1 processing unless both motivation and available resources are present to allow System 2 processing to override System 1. It stands to reason that System 1 processes have significant influence on performance evaluations. Raters often are occupied by a variety of tasks, limiting the amount of attentional and cognitive resources available for making performance judgments. Also, the multiple complex stimuli

common in organizational settings favor System 1 processing because it is quicker and less effortful.

Anticipated Emotions in the Appraisal Process

Baumeister and colleagues (2007) argued that decisions are guided by anticipated emotion and that without the anticipation of emotions, particularly regret, people are more likely to make poor decisions that they will later feel sorry about. Gilbert and Wilson (2007) have called the process of anticipating emotions "pre-feeling" and have argued that it is similar to (but less intensive than) the experience of actual emotion. One anticipated emotion that has received particular attention is anticipated regret (Zeelenberg & Pieters, 2007). Because regret is an aversive emotion evoked by a bad decision, people are motivated to avoid it. Regret avoidance has been found in practical domains such as negotiation (Larrick & Boles, 1995), consumer behavior (Simonson, 1992), and sexual behavior (Richard, de Vries, & van der Pligt, 1998), and in laboratory gambling tasks (Reb & Connolly, 2010).

Connolly and Zeelenberg (2002) have argued for two components of regret. A first component, *outcome regret*, is associated with the evaluation of the outcome resulting from one's choice as worse than some reference standard such as the actual or imagined outcome of a foregone option. A second component, *self-blame regret*, is associated with a judgment that one made an unjustified decision—for example, that one decided hastily or used poor information. Considerable evidence supports the idea of self-blame regret. For example, Pieters and Zeelenberg (2005) found in a series of studies that intention-behavior inconsistency can increase experienced regret over a bad outcome. They also found that self-reported amount of thinking about the decision, an indicator of decision process carefulness, was negatively related to experienced regret. Further, Reb and Connolly (2010) provided evidence for a mediating role of justifiability perceptions in the effect of self-blame regret.

Applying these ideas to the PA context, one can wonder whether raters will be influenced by any anticipated emotions they might experience during the PA process. For example, raters might anticipate regret or guilt for providing low ratings, thereby negatively affecting ratee outcomes (e.g., bonus, promotion). At the same time, raters might anticipate regret and self-blame for unduly favorable ratings that are unfair relative to the evaluations of other employees. The balance of these two anticipated regrets may determine the location of the final rating on a rating scale. Another

interesting question is what will happen when emotions such as regret are particularly salient during the appraisal process. Research suggests that increasing the salience (explicitly or implicitly) of self-blame regret can lead to more careful, justifiable decision processes (Reb, 2008; Reb & Connolly, 2010). This suggests that prompting raters to anticipate the self-blame and regret they might experience as a result of giving a wrong rating might lead to more careful, accurate ratings.

Experienced Emotions in the Appraisal Process

Emotions are not only influential as anticipated consequences in the performance appraisal process, but also influence the process itself. The Affect Infusion Model is a promising theory of how affect influences our behaviors and judgments (Forgas, 1995; Forgas & George, 2001). This model proposes that affective states are more likely to influence judgment when the task is complex and requires substantial processing than when it is relatively straightforward. This is because when judgment is difficult to make, the assessor searches pre-existing knowledge and experiences, which are emotion-laden, to help make a decision. Also, when the judgment is not straightforward (e.g., the assessor has not had much experience with the employee), the assessor relies on more constructive and generative processes that are likely to utilize affective structures.

So, how do experienced emotions affect the performance judgment process? The affect-as-information hypothesis states that experienced affect assigns value to whatever is interpreted as the cause of that affect (e.g., Clore, 1992). This affect is then interpreted as useful information about how one feels about the object of judgment (e.g., the performance of an employee). As previously mentioned, this affect heuristic is fast and powerful in terms of its effect on judgment. One important aspect of this phenomenon is that when the person is aware of an emotion that was caused by something other than the judgment task, it is unlikely to affect the judgment much. However, if the cause of the emotion is ambiguous, it may erroneously be used as information in the judgment task (Kadous, 2001). Thus, a rater who is, for unknown reasons, in a bad mood may attribute this mood to information about the performance of the employee and as a result give a more negative performance rating.

Emotions and moods can also affect which memories are recalled while making performance judgments (see Rusting, 1998, for a review). This mood-congruency hypothesis states that the assessor is more likely to recall past events that are congruent with his/her current mood. Thus,

a rater with a positively valenced mood is more likely to recall employee behavior that also elicited positive feelings at the time (Sinclair, 1988). Interestingly, interpersonal affect (a like–dislike relationship between rater and ratee) rather than mood has been found to influence the recall and weighting of congruent performance information (Robbins & DeNisi, 1998). This is because a long affective history that exists between two people is likely to be more salient than a transient mood state. Additionally, this effect has been shown to be stronger for upward and peer ratings rather than top-down assessments. The reason for this is because raters in these cases typically have less experience in making performance judgments of others and are also less accountable for those judgments (Antonioni & Park, 2001).

Felt emotions in the performance appraisal process can also affect the depth of information processing used by the rater (Schwarz, 1990). More specifically, negative emotions tend to lead to more in-depth processing of information compared to positive emotions. This is because negative emotions are a signal that something is wrong and requires more attention. Positive emotions indicate that all is well and are more likely to promote the use of heuristics so that attention can be allocated elsewhere.

Example: Escalation of Commitment

Escalation of commitment refers to the allocation of additional resources (e.g., time, money) to a failing project (Staw, 1976). Escalation of commitment can be considered irrational because these additional resources are unlikely to result in a successful project ("throwing good money after bad"). Several explanations have been proposed to explain decision makers' escalation of commitment, for example: (a) *self-justification*—individuals want to be viewed favorably and therefore these additional resources justify their prior decisions (Staw, 1976), (b) *closing costs*—individuals are willing to accept risks in an attempt to avoid the sure loss of resources by quitting the project (Arkes & Blumer, 1985), and (c) *norm for consistency*—individuals prefer to appear consistent in their support for a project or in their beliefs that the project will succeed (Staw & Ross, 1980).

Although most demonstrations of escalation of commitment involve allocating additional financial resources to a failing project, this phenomenon has also been observed in a PA context. For example, Slaughter and Greguras (2009) found a positive escalation effect, that is, more favorable performance evaluations from raters initially responsible for hiring the

employee than from raters not involved in the hiring decision. However, they found no negative escalation effect, that is, no worse ratings for raters who had initially recommended *not* hiring the employee. Extending these studies, recent research has investigated the role that emotions might play in influencing one's escalation of commitment when evaluating employee performance.

Wong, Yik, and Kwong (2006) examined the role of negative affect in escalating decisions. Participants were informed that they were or were not responsible for the hiring of a certain employee who was now performing poorly. Trait negative affect and whether one was responsible for hiring the employee interacted to predict performance ratings such that the relationship between negative affect and performance ratings was strongly negative in the responsible condition but not significant in the not responsible condition. Wong et al. (2006) argued that individuals with high negative affect are more likely to withdraw from stressful situations (e.g., receiving negative feedback that the employee they chose is performing poorly) in order to reduce unpleasant feelings, and therefore they are less likely to escalate commitment to a failing and stressful project than individuals lower on negative affect.

Research also demonstrates that other emotions or anticipated emotions influence one's escalation of commitment. For example, Tsai and Young (2010) examined how fear and anger may influence escalation of commitment. Tsai and Young argued that anger is associated with a sense of control (optimism), whereas fear is associated with a sense of lack of control (pessimism). Consistent with their hypotheses, participants in the fear-induced condition perceived their hiring decision as being more risky (pessimism) than participants in the anger-induced condition (optimism). Further, risk perception mediated the relationships between emotion (fear or anger) and escalation such that risk perception negatively predicted escalation of commitment in the form of performance ratings. Other research on escalation of commitment and emotions (but not necessarily in a performance appraisal context) has observed, for example, that anticipating positive emotions if the project succeeds positively relates to escalation of commitment (Harvey & Victravich, 2009), that experiencing regret from escalating in one situation can decrease escalation in a different context (Ku, 2008), and that anticipating experiencing regret for quitting a project positively predicts the amount that one escalates (Wong & Kwong, 2007).

O'Neill (2009) extended the above studies by examining how the expressions of anger and guilt *by others* in one's workplace might influence

escalation of commitment. O'Neill reasoned that employees learn appropriate emotional expressions from their coworkers. If one's coworkers frequently express anger, O'Neill hypothesized that individuals will be more likely to escalate commitment because they may wish to avoid the consequences of angry coworkers if one admits to making a bad initial decision. In contrast, individuals will be less likely to escalate commitment when coworkers frequently express guilt because guilt is an expression that something went wrong and that it is acceptable to admit mistakes to one's coworkers. Results from two of her three studies supported these hypotheses.

CONTEXTUAL AND ENVIRONMENTAL INFLUENCES

Culture as Moderator of Performance Judgments

The increasing diversity of the global workforce adds another layer of influence on interpersonal and group dynamics in the workplace (Triandis, Kurowski, & Gelfand, 1994). A particularly salient source of diversity in the modern workplace is national culture, yet there has been surprisingly little research on the effects of culture on performance appraisal processes (Fletcher & Perry, 2001). The scant literature that exists is primarily descriptive and fails to examine the underlying processes that cause differences in judgment and behavior. Because of this, the performance appraisal literature has been criticized for lacking generalizability to cultures outside the U.S. and Northwestern Europe (e.g., Triandis, 1999). Some work has looked at the effects of culture on general decision-making styles, which is a step in the right direction. Weber, Ames, and Blais (2004) developed a culturally differentiated taxonomy of decision-making "modes," or preferences in the ways people arrive at decisions. For example, they found that the Chinese are less inclined to use analytical/calculation-based reasoning at coming to decisions than Americans. More research is needed, however, to determine how these modes of decision making affect the performance appraisal process cross-culturally.

In the performance appraisal context, Li and Karakowsky (2001) found culture to affect PA accuracy in samples of Asian- and Caucasian-Americans. They found that when an observer views behavior as undesirable, based on cultural values, that behavior becomes more salient

and is given more weight in overall performance judgments. For example, a rater from a culture that values high power distance would be more sensitive to undesirable behaviors such as insubordination or showing a lack of respect to superiors. This has important implications from a JDM perspective because multiple observers may rate the same behavior differently depending on their cultural lenses. Thus, the criteria used for assessing rater accuracy should be considered in the cultural context of both the rater and ratee.

Some work in social psychology has also looked at appraisal processes in general from a cross-cultural perspective. Morris and Peng (1994) found that the Americans and Chinese have different attribution styles, which is likely to differentially affect performance judgments. They found that the American sample was much more susceptible to the fundamental attribution error (the under-attribution of others' behavior to contextual or situational factors) than the Chinese sample. This is likely due to the American individualistic value that places less emphasis on the social-relational aspects of behavior than the Chinese collectivist values.

One cultural difference that may affect performance appraisals is that of lay theories of change. North Americans tend to hold the view that things remain stable over time and that rates of change are fairly continuous, whereas Eastern cultures (particularly Chinese) expect trajectories to change or even reverse with time (Ji, 2008). This is likely the result of a difference in temporal focus, with westerners focusing more on the present and easterners focusing more on the future and past (Ji et al., 2009). Surprisingly, there has been very little research as to how these differences might affect performance appraisals. For example, it is possible that someone with a more cyclical or variable theory of change might be better able to perceive changes in performance over time. Someone with a more stable theory of change might be more susceptible to the confirmation bias as they are less likely to perceive disconfirming information as indicative of a change in employee performance. It could also be that those with a variable theory of change are more influenced by past behavior than current behavior, which could bias performance judgments. More work is needed in this area.

Finally, there has also been some research that has looked at the effects of culture on appraisal mechanisms from the ratee perspective. Brockner and Chen (1996) analyzed culture as a moderator of the relationship between self-esteem and self-protection after a threat to the self. In a U.S. sample (with more independent self-construal) this relationship held, but

in a Chinese sample (with more interdependent self-construal), it did not. Thus, cultural values seem also to affect how people construe and respond to negative feedback. More research is needed in this area to better understand how culture also affects the ratee to maximize the benefits of feedback interventions.

Ecological Rationality of Performance Appraisal Heuristics

Recall that the structure of task environments and limitation of our cognitive capacities are the two "blades" in Simon's scissors metaphor. Whereas the latter has been studied extensively in JDM, especially by the heuristics and biases program (e.g., Gilovich et al., 2002; Tversky & Kahneman, 1974), the former did not receive much attention until Gigerenzer and colleagues started their ecological rationality program more recently (e.g., Gigerenzer et al., 1999). The core of the program, as its name suggests, is to understand the environment or ecology under which a cognitive task is undertaken and how different strategies—optimization models or heuristics—should be selected to maximize their fit to the task ecology.

The spirit of the program is exemplified by the "take-the-best" heuristic. Take-the-best is a heuristic designed for the paired-comparison tasks in which one needs to infer which option of a pair has a larger criterion value (e.g., which employee of two has better managerial potential). Its algorithm is simple: It searches cues related to the criterion (e.g., employees' personalities, education, past performance, etc.) in the order of their predictive validities and stops searching whenever there is a difference between the two options on a cue. A decision is then made in favor of the option that has a larger value on the stopping cue. This simple heuristic has been shown to perform remarkably well against other, more complex strategies (e.g., Czerlinski, Gigerenzer, & Goldstein, 1999). However, this is more so in environments where cues differ largely in their validities, but less in environments where cue validities are rather close (e.g., Martignon & Hoffrage, 2002). In addition, take-the-best is a heuristic designed specifically for one type of tasks: paired-comparison. For other tasks, such as judgment of a continuous variable's value or choice among multiple options with varied feature values, other heuristics or strategies must be applied in its place (e.g., Gigerenzer, 2008). The multiplicity of heuristics in the face of the complexity of task ecologies is summarized by the "toolbox" metaphor: The mind is like a handyman who likes to carry a

toolbox at work; depending on the task at hand, either a hammer or a screwdriver is applied to maximize the job efficiency but seldom both (e.g., Gigerenzer & Selten, 2002).

What can we learn from the ideas of ecological rationality in the study of performance appraisal? First, it would be interesting to know what tools are placed in the appraisal toolbox. A rich set of heuristics, fast-and-frugal or quick-and-dirty, that have already been studied widely in the JDM community may serve as possible starters. Second, knowing the tools, the next step would be to study structures of different task ecologies. Besides the informational structure that is emphasized by the ecological rationality program (e.g., Gigerenzer et al., 1999), cultural, social, and organizational structures should be critical in the context of performance appraisal, as well. Third, a claim made frequently by the ecological rationality program is that simple heuristics can often achieve as high levels of performance as optimization models (e.g., multiple regression and Bayesian models). Some approaches not entirely familiar to the management community, such as computer simulations and model comparison techniques based on models' *predictive* but not fitting performance, have been used to support this claim (e.g., Luan et al., 2011). Adopted to study the workings of performance appraisal heuristics, these approaches could facilitate our understanding of the heuristics in both descriptive- and prescriptive-oriented research.

CONCLUSION AND OUTLOOK

Much too often, there has been an unfortunate equating of judgment and decision making with "cognitive heuristics and biases." This equating is unfortunate because it limits the contribution a JDM perspective can make to our understanding of the performance appraisal process. From our perspective, a decision can be thought of as a bottleneck into which a variety of factors, such as personality, values, beliefs, judgments, and preferences, are condensed through the decision process (see Reb, 2010). Thus, a JDM perspective can be useful in advancing theory-based, process-oriented research. Importantly, such a perspective is not limited to studying cognition but can integrate other factors, such as affect, culture, and context, as we have shown above. We hope that our chapter contributes to such a broader understanding of JDM and more research in this direction.

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